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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/989,719	11/21/2001	Walter Best	16202.660	9571

7590 03/23/2004

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EXAMINER

EGAN, BRIAN P

ART UNIT PAPER NUMBER

1772

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/989,719	<b>Applicant(s)</b> BEST, WALTER	
	<b>Examiner</b> Brian P. Egan	<b>Art Unit</b> 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 January 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Language***

1. Although not rejectionable under 35 U.S.C. 112, second paragraph, the Examiner kindly requests that the language of the claims be in conformance with general U.S. practice. The Examiner suggests replacing phrases such as “characterized in that” and “in that” with the phrase “wherein” to facilitate clarity.

The Examiner further notes that although reference characters corresponding to elements recited in the detailed description and the drawings may be used within the body of the claims, the use of reference characters is to be considered as having no effect on the scope of the claims.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-5, 14-17, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paquin et al. (#6,240,608) in view of Schlueter, Jr. et al. (#5,514,436).

Paquin et al. teach a textile web for a paper-making machine which, viewed from a transverse direction, is provided with several web sections that extend parallel to one another in a lengthwise direction and are aligned adjacent one another with their lateral edges being attached to one another via fasteners (see Abstract). The web sections are extruded, synthetic mesh material (Col. 5, lines 51-65). The fasteners extend primarily in a lengthwise direction and are

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designed to be continuous without interruption (Col. 4, lines 50-54). The fasteners are designed as sewn, stitched, melted, or welded seams (Col. 4, lines 50-54). Although it is not explicitly stated whether a sewn seam may exist in the form of several parallel sewn seams, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided multiple sewn seams, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. Paquin et al. further teach that the web sections may be provided with carded fibre batt (Col. 7, lines 21-24).

Paquin et al. fail to teach adjacent lateral edges that follow a meandering course with alternating projections and recesses.

Schlueter, Jr. et al., however, teach a puzzle cut seam that may be formed according to any conventional shaping technique (and therefore any shape – including trapezoids, zigzags, rectangles, and waves) (Col. 4, lines 52-53; Col. 4, line 65 to Col. 5, line 5). Although Schlueter, Jr. et al. fail to explicitly teach the size of the projections to be no more than 50 cm, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the projection distance to be in accordance with the Applicant's claimed range, since such a modification would have involved a mere change in the size of a component. A change in size is generally recognized as being within the level of ordinary skill in the art. *In re Rose*, 105 USPQ 237 (CCPA 1955). Schleuter, Jr. et al. teach the use of the puzzle cut seams for the purpose of providing a seam with enhanced strength, flexibility, and longer mechanical life than seams that are formed by butting and overlapping (Col. 8, lines 42-45). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have

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combined the teachings of Paquin et al. and Schlueter, Jr. et al. since both of the aforementioned references are analogous insofar as being directed towards the belt-making art, and further because Schlueter, Jr. et al. is directed at alleviating an inherent problem that exists in Paquin et al. – namely, the inefficiency that exists when providing belt seams with abutting edges rather than with puzzle cut seams.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified Paquin et al. by modifying the abutting seam into a puzzle cut seam as taught by Schlueter, Jr. et al. in order to providing a seam with enhanced strength, flexibility, and longer mechanical life than seams that are formed by butting and overlapping.

4. Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paquin et al. ('608) in view of Schlueter, Jr. et al. ('436), and further in view of Thorton et al. (#6,440,515) and Paquin (#6,350,336).

Schlueter, Jr. et al. and Paquin et al. ('608) teach a textile web as detailed above. The aforementioned prior art fails to teach the use of a porous heat-bonding adhesive fastener.

Thorton et al. and Paquin ('336), however, teach the use of heat-bonding adhesive fasteners in seam formation. Thorton et al. teach that the adhesive can be a hot melt adhesive (note that the disclosure of hot melt adhesive is inclusive of all forms of hot melt adhesives such as spunbonded tissues containing heat-bonding adhesive fibers, heat-bonding adhesive fibers, and bicomponent heat-bonding adhesive fibers) that is heated and pressed into the seam such that the adhesive is flattened, making it as mechanically uniform as possible with the substrate layer (Col. 5, lines 57-60). The adhesive is designed to be physically, chemically, thermally,

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mechanically, and electrically compatible with the substrate layer material (Col. 5, lines 41-44). Thorton et al. teach the use of an adhesive in combination with a puzzle cut seam for the purpose of providing a combination that acts to create a strong seam that is also smooth and mechanically uniform (Col. 5, lines 46-49). Note also that the adhesive may be an epoxy-like material, UV curable adhesive including acrylic epoxies and polyvinyl butyrals, or the adhesive can be the substrate material itself, either applied during a separate adhesive application step or else by melting the two ends sufficiently to cause adhesion of the mutually mating elements (Col. 5, lines 63-66). Paquin ('336) also teach the use of heat-bonding adhesive wherein the heat-bonding adhesive is designed as a bonding sheet that is porous for the purpose of facilitating the passage of water through the substrate (Col. 4, line 66 to Col. 5, line 2). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have combined the teachings of the aforementioned prior art along with the teachings of Thorton et al. and Paquin ('336) since each of the cited prior art references are analogous insofar as being directed at seam formation.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art by using a heat-activated adhesive to reinforce the seam as taught by both Thorton et al. and Paquin ('336) in order to provide a seam comprising a puzzle cut/adhesive combination that acts to create a strong seam that is also smooth and mechanically uniform, while also providing a porous adhesive that facilitates the passage of water through the substrate in the paper-forming process.

5. Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paquin et al. ('608) in view of Schlueter, Jr. et al. ('436), and further in view of Diaz-Kotti ('760).

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Paquin et al. and Schlueter, Jr. et al. teach a textile web as detailed above. The aforementioned prior art fails to teach web sections that are further provided with a woven textile, knitted textile, or spunbound tissue support base.

Diaz-Kotti, however, teach the use of providing a fabric base for a papermaking machine on one side of a synthetic netting with needled fibre batt applied to the opposite side of the synthetic netting (Col. 1, lines 63-67; Col. 5, lines 9-10). Diaz-Kotti teach the use of the multilayered arrangement for the purpose of providing a papermaking substrate which has enhanced compaction resistance and increased void volume while exhibiting higher resistance to load (Col. 1, lines 60-63). It would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have combined the teachings of the aforementioned prior art and Diaz-Kotti since each of the cited prior art references are analogous insofar as being directed at improving belt formations.

Therefore, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have modified the aforementioned prior art by combining the synthetic netting material and fiber batt of Paquin et al. with a woven textile base as taught by Diaz-Kotti in order to provide a papermaking substrate which has enhanced compaction resistance and increased void volume while exhibiting higher resistance to load.

### ***Response to Arguments***

6. The 35 U.S.C. 112, second paragraph rejections from the previous office action have been withdrawn pursuant to the Applicant's amended claims.

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7. Applicant's arguments, filed January 14, 2004, with respect to the teachings of Stech (#4,842,905) have been fully considered and are persuasive. The 35 U.S.C. 102(b) and 103 rejections in reference to the teachings of Stech from the previous office action have therefore been withdrawn.

8. Applicant's arguments filed January 14, 2004 with respect to the teachings of Paquin et al. ('608) in view of the teachings of Schlueter, Jr. et al. ('436), Thorton et al. ('515), Paquin ('336) and Diaz-Kotti ('760) have been fully considered but they are not persuasive.

In response to Applicant's argument that the teachings of Schlueter, Jr. et al. and Thorton et al. are non-analogous art, it has been held that the determination that a reference is from a nonanalogous art is twofold. First, we decide if a reference is within the field of the inventor's endeavor. If it is not, we proceed to determine whether the reference is reasonably pertinent to the particular problem with which the inventor was involved. *In re Wood*, 202 USPQ 171, 174. Here, although the Examiner agrees that Schleuter, Jr. et al. and Thorton et al. are directed at belts that are not of textile web material, the aforementioned references are reasonably pertinent to the particular problem with which the inventor was involved – namely, correcting the inherent problems that exist when you overlap adjacent web sections. Schleuter, Jr. et al. explicitly states (as noted above) that the use of a puzzle cut seam improves upon seams formed by butting and overlapping by improving the strength, flexibility, and mechanical life of the belt (Col. 8, lines 42-45). Given that Schleuter, Jr. et al. explicitly solve for the same problem as the Applicant, the teachings of puzzle cut seams within the belt art, albeit not the textile web belt art, are analogous art under the *Wood* Test. Therefore, the Examiner maintains the rejections over Schlueter, Jr. and Thornton from the previous office action.



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The Examiner further notes that it is irrelevant whether the seam extends in the lateral rather than lengthwise direction in the teachings of Schlueter, Jr. et al. and Thorton et al. The test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). Here, taking the teachings of Paquin et al. in combination with Schlueter, Jr. et al. and Thorton et al. as a whole, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to modify the overlapping edges that extend in the lengthwise direction in Paquin et al. by using a puzzle cut seam as taught by Schlueter, Jr. and Thorton et al. – both Schlueter, Jr. et al. and Thorton et al. suggest to those of ordinary skill in the art that an overlapping seam can be improved through the use of a puzzle cut seam. Therefore, whether the seam exists in the longitudinal or transverse direction does not preclude the use of the teachings of Schlueter, Jr. and Thorton et al.

Finally, with regards to the Applicant's arguments with regards to the teachings of Diaz-Kotti, it has been held that one cannot show non-obviousness by attacking references individually, where, as here, the rejections are based on combinations of references. *In re Keller*, 208 USPQ 871 (CCPA 1981). Again, the test for combining references is what the combination of disclosures taken as a whole would suggest to one of ordinary skill in the art. *In re McLaughlin*, 170 USPQ 209 (CCPA 1971). References are evaluated by what they suggest to one versed in the art, rather than by their specific disclosures. *In re Bozek*, 163 USPQ 545 (CCPA 1969). Taking the teachings of Paquin et al. ('608), Schlueter, Jr. et al. ('436), and Diaz-

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Kotti ('760) as a whole, it would have been obvious to one of ordinary skill in the art at the time Applicant's invention was made to have provided the textile web of Paquin et al. with a support base as taught by Diaz-Kotti (while also providing a puzzle cut seam as taught by Schlueter, Jr. et al.) in order to provide a papermaking substrate which has enhanced compaction resistance and increased void volume while exhibiting higher resistance to load.

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

### ***Conclusion***

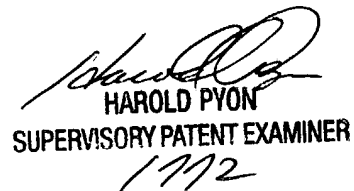
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian P. Egan whose telephone number is 571-272-1491. The examiner can normally be reached on M-F, 8:30-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Y. Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
BPE 2/16/04

  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER  
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3/17/04